REMARKS

Claims 1 - 33 are pending in the present application. By this Amendment, claims 5, 8, 9 and 24 have each been amended. Claims 15-23 and 30-33 have been withdrawn from consideration. No new matter has been added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated April 18, 2006.

Objections to the Drawings

The Examiner states that the "liquid of claim 24" must be illustrated or the feature must be cancelled from the claims, since the drawing must show every feature of the invention specified in the claims. It is noted that claim 24 recites "...while keeping the vicinity of a bending center portion of the end bending portion in a fluid." Claim 24 does not use the word "liquid."

It is further noted that on page 66, line 11 the specification states discloses "...when at least the neighborhood of the bending center portion of the end bending portion 19 is kept in its fluid state." Claim 24 has been amended to state "fluid state", and therefore, it is believed that amendment of the drawings is unnecessary.

Claim Objections

The Examiner states that claims 5-7 and 9 are objected to because the definition of "excursion" is unclear. The claims have been amended to overcome the obejction.

Claim Rejections – 35 U.S.C. §112

Claim 24 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention

The Examiner states that the presence of a "fluid" is not shown in the drawings, and it is unclear how the fluid is used in the molding method. As noted above, claim 24 has been amended to state "a fluid state."

The Examiner also states that the limitation "closely onto the front and back surfaces" is unclear because it cannot be discerned how the end bending portion is bent closely onto both sides of the article. The phrase has been amended for clarity.

Claim Rejections – 35 U.S.C. §103

Claims 1-3 were rejected under 35 U.S.C. §103(a) as being unpatentable over Koji (JP 11-105157) in view of Sims (U.S. Patent No. 4,385,090)

1) In the invention of **Koji** '157, a plurality of dies (**Koji** discloses six (6) dies) having the same shape are prepared. The dies are disposed rotatably and arranged circularly with a predetermined interval.

2) A molding is disposed on one of the plurality of dies (hereinafter called "die-A").

3) The molding is heated from the back surface side at a first station (first-heating).

4) After the first-heating is finished, the die-A is rotated to move to a second station so that the molding is heated from the back surface side at the second station (second-heating).

5) After the second-heating is finished, the die-A is rotated to move to a third station so that the molding is heated from the back surface side at the third station (third-heating).

6) After the third-heating is finished, the die-A is rotated to move to the next station so that an end portion of the molding is formed at the next station.

Paragraphs [0020] and [0021] of **Koji** '157 clearly disclose that an inner side surface 16 and an outer side surface 18 of the molding 10 are heated to the same temperature right after the third-heating (the above 5) is finished. Further, claim 1 of **Koji** '157 recites that the end portion of the molding is heated so that the whole end portion is uniformly softened. In **Koji** '157, the material of the molding 10 is a single thermoplastic synthetic resin. Nowhere does **Koji** '157

disclose or suggest using material other than single thermoplastic synthetic resin. Accordingly, it is necessary that the inner side surface 16 and the outer side surface 18 are softened to the same degree. However, if the molding is press-formed when the front surface 18 and the back surface 16 are the same in softness, the surface portion of the molding which is in contact with the die might be scratched so that the appearance of the molding is ornamentally deteriorated.

A feature of the claimed invention is "the press-forming is done in a condition in which the surface layer is harder than the inner layer." By having this feature, the occurrence of scratches on the surface layer of the molding and the like is prevented. In contrast, **Koji** '157 discloses that the end portion of the molding is uniformly softened so that the effects and the advantages of the claimed invention would not be expected in **Koji** '157.

Further, **Koji** '157, as described above, provides plural dies which are rotated and moved among the stations so that the molding is heated at the respective stations. This movement of dies would cause the molding to be displaced from the die. Moreover, the molding apparatus needs to become larger in size. In contrast, the claimed invention uses only one fixed die and does not cause such a problem.

Sims fails to provide the teachings which **Koji** lacks. **Sims** discloses a method of manufacturing foam covered products. As illustrated in Figure 1, **Sims** discloses a laminate

composed of block 12 and covering material 10. Block 12 can be polyethylene foam and covering material 10 may be PVC. See column 1, lines 52-56. A portion 13 is cut out of block 12 with a hot wire. Next, in Figure 3, a small thickness 16 of block 12 is folded on to the side surface 17 of block 12 using a hot air gun. In Figure 4, an edge 18 is also folded on to block 12. Alternatively, in a second method, small thickness 21 of the polyethylene foam can be placed on covering 20. This laminate is then heat bonded to block 23. **Sims** does not address the melt temperature and hardness of these comments. Accordingly, the combination of references fails to teach or suggest the claimed invention.

Claim 4 was rejected under §103(a) over Koji in view of Sims and further in view of Costello

Koji '157 uses a flat-plate-shaped heater 32. It is therefore necessary for **Koji** to use a shielding plate so that the radiation heat is not irradiated on the portion of the molding other than the portion to be heated. This shielding plate is not expressly indicated in the drawings, but Fig. 4 of **Koji** appears to disclose such a shielding plate disposed on the right part, which is arranged almost parallel to the inner side surface (bottom surface) 16 of the molding. In contrast, the invention claimed in claim 4 can focally emit the heat so that the claimed invention can prevent heating of an inappropriate portion of the molding without using any particular shielding plate. Accordingly, the molding can be formed effectively and accurately. (See the attached Sketch 1)

Costello fails to provide the teachings which **Koji** and Sims lack, as discussed above.

Additionally, there is no suggestion or motivation in the art to combine the references. **Costello** is directed at a conveyor for fusing and heating systems, comprising heating devices 16 and 17. It appears that some of the printed wiring boards 23 are farther than the focal point of the heating devices. This apparatus is directed to fusing platings on printed wiring boards, and does not disclose or suggest the use of the apparatus in the formation of resin moldings.

Furthermore, **Koji** teaches away from using the heating. **Koji** discloses a flat plane heating source 32 which emits radiation directly onto mall raw material 10, and thus does not have a focal point. **Koji** does not disclose or suggest a modification to utilize a heating element with a focal point.

Claims 5-12 were rejected under §103 as being unpatentable over Koji in view of Sims and Loy

Loy '680 discloses an apparatus in which a resin sheet is integrally formed on a countertop of furniture or the like which is prepared in advance. This is totally different from the molding member of the claimed invention in that the molding member preliminarily includes a molding main body and an ornamental layer integrally formed thereon.

Moreover, according to the abstract of **Loy** '680, the apparatus disclosed in **Loy** includes a plurality of longitudinally spaced work stations. The work is progressively moved thorough each station to be processed. Therefore, the apparatus of **Loy** is less relevant with the claimed invention than the apparatus of **Koji** in which the dies are rotated and moved by the apparatus. In contrast, in the claimed invention, the end portion of the molding is press-formed at a fixed position by one particular die. Therefore, the molding would not be displaced from the die during the process so that the molding is precisely formed in a predetermined shape. Such advantages cannot be expected in **Loy**. Accordingly, it is improper and difficult to apply the teaching of **Loy** to the claimed invention.

Claims 13 and 14 were rejected under §103 as being unpatentable over Koji in view of Hideyasu, Reardon, Sims and Anderson

Hideyasu '155 discloses that a back side of an end portion of a molding is partially cut. However, **Hideyasu** fails to disclose the following feature: the molding has an integrally-formed two-layered structure including a surface layer and a molding main body, wherein the molding main body is lower in hardness and melting temperature than the surface layer. Accordingly, **Hideyasu** is basically different from the claimed invention.

Further, **Hideyasu** discloses movable dies (an elevating die 25 and a back-and-forth siding die 27) that form surfaces of moldings. Applying **Hideyasu** to an actual molding process would make the process inoperable due to the following fatal defects.

1) As the upper die 35 moves down, the back-and-forth sliding die 27 moves closer to the elevating die 25 in the longitudinal direction of the molding. This might cause the end portion of the molding in a softened condition to be crushed.

2) As a result, the softened resin would flow out to protrude to a space between the elevating die 25 and the back-and-forth sliding die 27, possibly preventing the dies 25 and 27 from being completely closed.

3) Even when the dies 25 and 27 are closed, there would remain a slight gap between the die 25 forming the front surface of the molding and the die 27. A linear mark on the surface of the molding would inevitably occur along the gap. This mark would make the molding ornamentally deteriorated. (See the attached Sketch 2)

The remaining references relied on in the rejection fail to provide the recited features. The teachings of **Anderson** are not compatible with **Koji, Reardon, Sims** and **Hideyasu** since **Anderson** is not devoted to manufacturing molding.

Claims 24-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Anderson

It is the position of the Office Action that **Anderson** discloses the invention as claimed, with the exception of a fluid. However, as noted above, "a fluid" should instead read "a fluid state" in claim 24.

Anderson is directed at a method for forming a top assembly for attaching plastic sheet 61 to sheet metal core 15. It is noted that no molding is disclosed. Instead, **Anderson** is directed at forming the shape of plastic sheet 61. In **Anderson**, clamping member 143 and forming bar 147 interact with the plastic sheet 61. Clamping member 143 presses down on the plastic sheet 61 with rubber pad 145. Meanwhile, forming bar 147 also presses down on plastic sheet 61 with rubber forming pad 153. However, forming bar 147 is movable, as illustrated in Figure 5.

Claim 24 requires a "cavity formed between the front forming surface and the back forming surface." **Anderson** does not disclose such a cavity. The Examiner points to Figure 5 when discussing a cavity. It appears that the Examiner regards forming bar 147 and clamping member 143 as a front and back forming surface. However, no cavity is formed between these two elements. This is because the device of Anderson is not used for manufacturing molding, but rather is merely directed to a device used to attach a pre-formed sheet of plastic to a metal core by applying pressure at selected points.

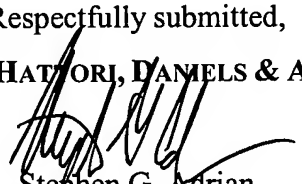
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



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Attachments: Sketch 1
Sketch 2